



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,009	01/11/2002	Susan A. Alie	Analog 5911	8144
7590 09/30/2004 Samuels, Gauthier & Stevens LLP Suite 3300 225 Franklin Street Boston, MA 02110			EXAMINER LE, THAO X	
			ART UNIT 2814	PAPER NUMBER

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/044,009	Applicant(s) ALIE ET AL.	
	Examiner Thao X Le	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-8,30,32,33 and 35-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5-8,30,32,33,35-39 is/are allowed.
- 6) ☒ Claim(s) 40-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claim 4, 9-29, 31 and 34 are canceled in the amendment dated 18 Aug 2004.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 40-62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations 'a second contact hole' and 'a second titanium-tungsten layer' of base claims 40 and 46, 'a plurality of contact holes', 'a plurality of silicide layers', and 'a plurality of titanium-tungsten layer' of base claims 53 and 58 are not being disclosed in the original specification. These limitations are not being considered in the following action.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2814

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 40-42, 45-48, 51-53, 56-58, 61-62 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5561307 to Mihara et al.

Regarding claims 40, 46, 53, 58, Mihara discloses a integrated MEMS device, comprising: a substrate 30, fig. 9 column 10 line 2, having a electrically conductive structure; a field oxide 24, column 10 line 46 having a contact hole 26 therein, fig. 3, formed over said substrate 30, a silicide layer 36, column 10 line 58, formed in said contact hole 26 of said field oxide 24, a titanium-tungsten layer 22, column 10 lines 7-8, formed over said silicide layer 36, to operatively contact said electrically conductive structure in said substrate 30, and a platinum layer 14a, column 11 line 34 formed over said titanium-tungsten layer 22.

With respect to the recitation of 'an integrated MEMS device' reflects only a preamble statement of an intended use of the claimed structure, which does not limit the scope of the claim and that the preamble generally is not accorded patentable weight, MPEP § 2112.02.

Regarding claims 41 and 47, Mihara discloses the metallization stack of claim 1, wherein said electrically conductive structure is an active silicon element,

Regarding claim 42, 48, Mihara discloses the metallization stack of claim 2a wherein said contact hole 26 exposes a portion of a surface of substrate at a bottom of the contact hole and silicide layer 36 is formed only on the exposed portion of the surface of substrate 30.

Regarding claim 45, 51-52, 56-57, 61-62, Mihara discloses the structure wherein silicide layer 26 is a platinum silicide layer, column 10 line 59.

**BEST AVAILABLE COPY**

Art Unit: 2814

The process limitations "forming during a same processing step" in claims 52, 57, 62 do not carry weight in a claim drawn to structure. In re Thorpe, 277 USPQ 964 (Fed. Cir. 1985).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 43-44, 49-50, 54-55, and 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5561307 to Mihara et al.

Regarding claims 43, 49, 54, and 59, Mihara does not expressly disclose the platinum layer forms a corrosive resistant electrode.

**BEST AVAILABLE COPY**

However, when the claimed and the prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Regarding claims 44, 50, 55, and 60, Mihara does not expressly disclose the platinum layer is an interconnect of the integrated MEMS.

However, at the time of the invention was made it would have been obvious to use the metallization stack teaching of Mihara in a device as claimed for intended use, MPEP § 2112.02.

#### ***Allowable Subject Matter***

9. Claims 1-3,5-8, 30, 32-33,35-39 are allowed because the prior art of record neither anticipated nor rendered obvious all the limitation of the base claims 1 and 32 including ‘platinum layer having a first portion formed directly on titanium-tungsten layer, and a second portion formed directly on filed oxide’.

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-3,5-8, 30, 32-33,35-39 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2814

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thao X. Le  
22 Sep 2004

LONG PHAM  
PRIMARY EXAMINER

LONG PHAM  
EXAMINER

LONG PHAM  
PRIMARY EXAMINER